



METHODOLOGICAL EXPLANATION

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ECONOMIC ACCOUNTS FOR AGRICULTURE

This methodological explanation relates to the data releases:

- Economic accounts for agriculture, Slovenia, annually (First Release)
- Real income from agriculture – first estimate, annually (First Release)
- Real income from agriculture – second estimate, annually (First Release)



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1 PURPOSE

The purpose of the economic accounts for agriculture data publishing is the presentation of the situation in agriculture in the specific calendar year and calculation of the income indicators. The published items of the production account, primary income account, entrepreneurial account, the items of the accumulation account and the data on employment enable the comparison of the data of the current year with the data of the preceding year, the calculation of the volume changes as well as the calculation of the economic importance of the agriculture as the share of gross value added (GVA) of agriculture in gross domestic product (GDP).

The main published variables of economic accounts for agriculture are:

- value of agricultural output,
- value of intermediate consumption,
- value of value added,
- value of taxed and subsidies,
- value of fixed capital consumption,
- value of compensation of employees,
- value of factor income,
- value of mixed income / value of operating surplus,
- value of entrepreneurial income,
- value of gross fixed capital formation,
- employment.

2 LEGAL FRAMEWORK

- [Annual Programme of Statistical Surveys \(LPSR\)](#) (only in Slovene)
- [National Statistics Act](#) (OJ RS, No. 45/95 and 9/01)
- Regulation (EC) No 138/2004 of the European Parliament and of the Council of 5 December 2003 on the economic accounts for agriculture in the Community and Regulation (EU) 2022/590 of the European Parliament and of the Council of 6 April 2022 amending Regulation (EC) No 138/2004 as regards regional economic accounts for agriculture

3 UNIT DESCRIBED BY THE PUBLISHED DATA

The observation unit is agricultural activity according to the Standard classification of activities (NACE) in division A 01 Agriculture, hunting and related service activities comprised crop production, animal rearing and performing of agricultural activities.

The comprehensive presentation of the agricultural activity enables the system of accounts from the valuation of the agricultural output, based on the data on products quantities products prices, to the calculation of the costs in the

intermediate consumption items. The calculation of the value added enables comparison of the agriculture with the total national economy (gross domestic product – GDP). The most important income category of agriculture is the factor income that enables structure analyse of the factor income and division of the factor income on share from agricultural activity and the share from the subsidies and the division of the factor income between the production factors of work, capital and land. The comprehensive picture of agriculture is upgraded with the data of fixed capital formation in agricultural and non-agricultural products. The data on employment expressed in annual work units (AWU), divided on paid und unpaid employment, are important for the calculation of the productivity and all income indicators. The international comparison of the economic position of agriculture based on the factor income per employee.

4 SELECTION OF OBSERVATION UNIT

The units of observation are:

- family farms, over the defined threshold,
- agricultural enterprises, companies and cooperatives, performing agricultural activity according to the Business register of Slovenia.

The data base of economic accounts for agriculture are units performing the typical agricultural activities according to the Standard classification of activities (NACE) and correspond to the definition of the agricultural holdings in the form of:

- family farms, over the defined threshold,
- agricultural enterprises, companies and cooperatives, performing agricultural activity according to the Business register of Slovenia.

5 SOURCES AND METHODS OF DATA COLLECTION

The data are collected annually.

For the compilation of the economic accounts for agriculture are used the data of SURS and other institutions.

SURS data

Agricultural statistics:

- Structure of agricultural holdings (KME-JUNSTRK)
- Sown areas (KME – JUN)
- Production of early crops and early fruits and yield forecast of some important late crops (KME-ZGK-P/L, KME-ZGK-K/L)
- Expected yields of late crops, fruits, and grapes (KME-POZP-P/L, KME-POZP-K/L)

- Yield forecast of late crops, late fruit and grapes (KME-POZK-P/L, KME-POZK-K/L)
- Orchard census (POPIS-SAD/5L)
- Livestock and area sown in autumn sowing (KME-DEC)
- Livestock production accounting (KME-ŽIV/L)
- Livestock slaughter in slaughterhouses (KME-ZAKOL/M)
- Input prices in agriculture (KME-INPUT/M)
- Data on leased land (ha) and average rent per ha of leased land (Data from the Fund of Agricultural Land of the RS)KME-ZEM/L
- Purchase and sale of agricultural products (KME-ODK/M, KME-PRO/M)
- Use of reproduction material in agricultural production (KME-PMG)
- Import of mineral fertilizers (KME-UMG)
- Use of pesticides (KME-PEST/P)
- Supply balances of plant products (KME-BIL-RAST/L)

Structural business statistics:

- Industrial production (IND/L)

Goods exchange

- Trade in goods between member states (INTRASTAT)
- Trade in goods with non-member states (EKSTRASTAT)

National accounts

- Tables for the calculation of macroeconomic categories and employment for economic enterprises
- VAT calculation for agriculture
- Calculation of the item other taxes on production for agriculture
- Financial revenues and expenditures for economic enterprises
- Calculation of insurance premiums for agriculture
- Capitalization of research and development in agriculture
- GDP deflator

For the compilation of the economic accounts for agriculture data from other institutions are used.

Administrative data:

Ministry of Agriculture, Forestry and Food,

- Register of agricultural holdings - List of new permanent plantations by type of fruit (Year of planting, area, number of trees)

Agency of the republic of slovenia for agricultural markets and rural development:

- Aggregated data by individual measures for Slovenia (Accounting principle)
- Aggregated data on capital transfers by type of transfer (Calendar year)

Financial administration of the Republic of Slovenia:

- Data from the Financial Administration of the Republik of Slovenia on the quantity of fuel sold for agriculture

Other institutions:

Agricultural institute of the Republic of Slovenia

- Cooperation in the field of methodology and calculations.

6 DEFINITIONS

Agricultural production at producer prices equals the value of crop output, animal output, agricultural services and the value of inseparable non-agricultural secondary activities. It is calculated for an individual calendar year, valued at the farm-gate producer prices without VAT.

Agricultural production at basic prices equals the value of crop output, animal output and the output of animal products, agricultural services output and the value of inseparable non- agricultural secondary activities. Valuation at basic prices means the taxes on products and services are excluded and all subsidies on products and services are included. Agricultural production is composed of market production (purchase, green market), own final consumption, inter-branch consumption and own production of fixed assets.

Intermediate consumption is valued at purchase prices since it presents the value of all products and services that farmers purchase and use in the process of agricultural production. Intermediate consumption includes the value of all products and services that agricultural holdings consume in the agricultural production process. Included are the costs of products and services that agricultural holdings buy outside the agricultural activity as well as the products and services produced on the agricultural holdings. As a cost of agricultural holding is treated also the feedingstuff produced and consumed on the agricultural holding (taking into account the four-digit NACE classification level). The products produced and consumed on the agricultural holdings and corresponding to the same activity at the four-digit NACE classification level are not included as part of agricultural production. Characteristic examples are seeds used in the same production, grapes for producing wine, olives for producing olive oil, and milk used for calves fodder.

Gross value added at basic prices equals agricultural production at basic prices less intermediate consumption at purchase prices. Gross value added also equals the sum of fixed capital consumption, compensation of employees, other taxes on production and gross operating surplus/gross mixed income, while other subsidies on production are subtracted.

Net value added at basic prices equals agricultural production at basic prices less intermediate consumption at purchase prices less fixed capital consumption. Net value added also equals the sum of compensation of

employees, other taxes on production and net operating surplus/net mixed income, while other subsidies on production are subtracted.

Other taxes on production comprise all taxes that enterprises incur as a result of engaging in production, independently of the quantity or value of the goods and services produced or sold. They may be payable on land, fixed capital goods or the labour employed.

Subsidies are current unrequited payments which general government or the institutions of the European Union make to resident producers with the objective of influencing their levels of production, their prices or the remuneration of the factors of production. **Subsidies on agricultural products** are subsidies payable per unit of a good or service produced. **Other subsidies on production** are not direct support of the quantity production, but refer to agro-environmental measures, subsidies for agricultural production in less favoured or mountain areas and compensation for current losses and returned excise amount.

Consumption of fixed capital is the cost of the normal wear and tear of the capital assets used in the agricultural production. Basic data for the calculation of fixed capital consumption are the value of capital stock and the economic life. The calculation of fixed capital consumption for the characteristic capital assets in agriculture is based on the perpetual inventory method.

Compensation of employees is defined as total remuneration, in cash or in kind, payable by an employer to an employee in return for work done during the accounting period. It includes gross wages and salaries in cash and in kind and employers social actual and imputed contributions.

Factor income is the amount for the remuneration of the production factors: labour, capital and land. Factor income incorporates subsidies on agricultural products and other subsidies on agricultural production. Due to the importance of the subsidies in agriculture and redirection of the common agricultural policy in indirect support in the form of other subsidies on production, factor income is more appropriate for reflecting the economic state of agriculture than value added. Factor income equals net value added less other taxes on production plus other subsidies on production. Factor income also equals the sum of net operating surplus/mixed income and compensation of employees.

Operating surplus is the residual category of income account that equals factor income of companies less compensation of employees. The category can be shown either as net or gross including fixed capital consumption.

Mixed income is the residual category of unincorporated enterprises and self-employed persons. The category can be shown either as net or gross including fixed capital consumption.

Entrepreneurial income equals net operating surplus/net mixed income less paid rents and interest plus received interest that refers exclusively to agricultural production. The category can be shown either as net or gross including fixed capital consumption.

Gross fixed capital formation (GFCF) includes the GFCF in agricultural assets, GFCF in non-agricultural assets, the costs of transfer of ownership and

changes in stocks.

GFCF produced in agriculture consists of animals for rearing (increased animal stock) and new plantations. Agriculture is a specific activity that produces fixed assets and might use them in the production process for the creation of the value added.

GFCF in agriculture includes GFCF in non-agricultural products consisting of agricultural machinery, equipment, buildings, land improvement and capitalised expenditures for research and development in agriculture.

Agricultural labour input includes all employed and self-employed persons that provide paid and unpaid labour input to residential units which perform the characteristic agricultural and inseparable non-agricultural secondary activities. Due to taking into account part-time and seasonal work, labour force and its changes are measured in annual work units (AWU). One AWU equals one person in full-time employment in agriculture in one year (1,800 hours). Employment has an important influence on the calculation of the income indicators.

7 EXPLANATIONS

7.1 CLASSIFICATIONS

NACE - National classification of activities

<https://www.stat.si/StatWeb/Methods/Classifications>

7.2 DATA PROCESSING

DATA EDITING

Data editing was not performed.

WEIGHTING

Weighting was not performed.

SEASONAL ADJUSTMENT

Seasonal adjustment is not applicable.

DATA PROCESSING OTHER

The data are taken over from the various statistical and other sources, the individual items are calculated according to the Eurosta methodology. After receiving the input data, a comparative study of data values is done on the

basis of a comparison of values between years and (potentially) existing related data sources. Any uncertainty regarding the data is previously verified with input sources, any error correction is carried out in cooperation with them. After checking and correcting, data are entered in prepared tables and worksheets of the Economic Accounts for Forestry. After completing the entry, tabulating of results is obtained with the preparation of tables, arranged according to the value of certain variables in standard format for transmission to Eurostat. Procedures (imputation, inserting, weighting) for any missing responses (non-response) are not conducted in this survey. Data are at the end checked again with values from previous years by individual variables, and any significant discrepancies are further examined.

BASIC AGREGATES OF THE ECONOMIC ACCOUNTS FOR AGRICULTURE

Gross value added = output – intermediate consumption

Net value added = gross value added – consumption of fixed capital

Factor income = net value added – other taxes on production + other subsidies on production

Factor income = net entrepreneurial income + compensation of employees + rents paid + interest paid - interest received

Operating surplus/Mixed income = factor income – compensation of employees

Entrepreneurial income = operating surplus/mixed income – rents paid – interest paid + interest received

ECONOMIC ACCOUNTS FOR AGRICULTURE AT CONSTANT PRICES

Each aggregate of goods and services presented in the accounts is calculated on the basis of price and quantity measures and constructed so that

Value index = price index x volume index

Changes in volume are measured using a Laspeyres index:

$$L(q) = \frac{\sum p_0 q_n}{\sum p_0 q_0} = \frac{\sum p_0 q_0 \frac{q_n}{q_0}}{\sum p_0 q_0} = \frac{\sum V_0 \frac{q_n}{q_0}}{\sum V_0}$$

Changes in prices are measured using a Paasche index:

$$P(p) = \frac{\sum q_n p_n}{\sum q_n p_0} = \frac{\sum p_0 q_n \frac{p_n}{p_0}}{\sum p_0 q_n}$$

where:

- p_0 is the price recorded in the base year 0;
- p_n is the price recorded in year n;
- q_0 is the quantity recorded in the base year 0;
- q_n is the quantity recorded in year n;
- V_0 is the value recorded in the base year 0 ($V_0 = p_0 q_0$).

7.3 INDICES

CALCULATION OF REAL VALUES

To calculate the real income from agriculture, we use deflation. This means adjusting nominal values, expressed in current prices, using a deflator based on price and value indices, where the base period is defined as N-1. To calculate real indices, we use the following formulas:

Real price Index = (Nominal Price Index / GDP Deflator) × 100

Real value Index = (Nominal Value Index / GDP Deflator) × 100

The GDP deflator for the first and second estimates of real income from agriculture is calculated using the Eurostat ECFIN database. For the final estimation of Economic Accounts for Agriculture, the national GDP deflator calculated from Gross Domestic Product is used.

GDP Deflator = (Current Prices / Constant Prices of the Previous Year) × 100

Example: The nominal index of potato production value compared to the previous year is 110%, indicating a 10% increase in production value without considering inflation. By applying the GDP deflator index, which, for example, is 103%, the real index can be calculated. The real production value index is thus 106.79%. This means that the real growth in the production value of potatoes (adjusted for inflation) is 6.79%.

CALCULATION OF INCOME INDICATORS

The purpose of the first and the second estimate is the calculation of the Index of the real income growth per annual work unit. This indicator presents the real income growth in agriculture in the current year in comparison with the preceding year.

7.4 PRECISION

The precision is not calculated.

7.5 OTHER EXPLANATIONS

8 PUBLISHING

SiStat Data Portal: [Agriculture, forestry and fishery](#) - Economic accounts for agriculture (Employment in agriculture in annual work units (AWU))

- First Release (Agriculture, forestry, fishing, Economic accounts for agriculture): “Economic accounts for agriculture, Slovenia, annually (absolute values of the basic EAA aggregates In current prices, absolute values of the basic EAA aggregates in constant prices of the preceding year, annual volume changes of the basic EAA aggregates).
- First Release (Agriculture, forestry, fishing, Economic accounts for agriculture):
- “Real income from agriculture – first estimate, Slovenia, annually (annual changes of the real values of the main agricultural aggregates, indicator Real factor income per annual work unit).
- First Release (Agriculture, forestry, fishing, Economic accounts for agriculture):
- “Real income from agriculture – second estimate, Slovenia, annually (annual changes of the real values of the main agricultural aggregates, indicator Real factor income per annual work unit).
- Eurostat.

9 REVISION OF THE DATA

9.1 PUBLISHING OF PRELIMINARY AND FINAL DATA

According to the valid methodology the data of economic accounts for agriculture have no preliminary or final data status due to the possibility of make changes every year for the last three years.

Due to the quality improvements were in 2016 revised data series 1995 – 2015 of olive oil and wine and implemented the European System of Accounts 2010 (ESR 2010).

- **Revised time series on wine, olives and olive oil**

Due to the more suitable production presentation closer to the real situation, the new calculations for wine and olive oil were made. In the previous compilation the entire wine production was presented under the item Table wine. In the new compilation wine is divided into Quality wine and Table wine. Loses are calculated for both items. The basis for the compilation of both kinds of wine was the analysis referring to the production and the prices of wine. The compilation of the olive production was replaced by the olive oil compilation,

based on the statistical data on olive production, standard quotient for the conversion of olives into olive oil and the prices of olive oil. The EAA were also upgraded with the revised data of the national accounts and the upgraded calculations due to the forthcoming weighting scheme 2015 based on the EAA data.

- **Introduction of ESA 2010**

The reason for the data revision is a regulation of the European Parliament and of the Council adopted in 2013 that requires the EU Member States to introduce a new system for compiling national accounts – European System of Accounts 2010 (ESA 2010), which replaced ESA 1995. Because economic accounts for agriculture are satellite accounts, the change of the methodology reflects in national accounts as well. The introduction of ESA 2010 in the case of economic accounts for agriculture has no influence on the current accounts but only on the capital account. With the extension of the concept of fixed assets, the research and development expenditures in agriculture increased gross fixed capital formation in intangible fixed assets and fixed capital consumption.

Revised time series on raw wool

The whole series of raw wool values was revised, for which we had difficulties in obtaining price data. In recent years, the situation has improved, so we re-evaluated the raw wool for the entire period. Due to the revision raw wool value, the value of agricultural production decreased between 0.1 and 1.0 p.p. (different by years), which had an impact on the reduction of factor income between 0.2 to 3 p.p.

9.2 FACTORS INFLUENCING COMPARABILITY OVER TIME

There are no break series, so all of the data are comparable.

Methodological explanation on revision of statistical data is available on

<http://www.stat.si/dokument/5299/RevisionOfStatisticalDataMEgeneral.pdf>.

10 OTHER METHODOLOGICAL MATERIALS

Methodological materials on SURS's website are available at <https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports>.

- Questionnaire:
 - SURS does not collect data for this survey by using a questionnaire.

Methodological explanations

- Structure of the agricultural holdings,

sector: Agriculture, forestry and fishing,

subsector: Agricultural holdings and agricultural census

- Crop production,

sector: Agriculture, forestry and fishing,

subsector: Crop production

- Animal production

sector: Agriculture, forestry and fishing, podpodročje: Animals, milk and milk products

- Prices and rents of agricultural land
- Gross domestic product, other aggregates of the national accounts and employment

sector: Gross domestic product and national accounts,

subsector: Gross domestic product and economic growth

<http://www.stat.si/statweb/Methods/QuestionnairesMethodologicalExplanationsQualityReports>

- Economic accounts for agriculture (EAA):

[https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Economic_accounts_for_agriculture_\(EAA\)](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Economic_accounts_for_agriculture_(EAA))

- Economic accounts for agriculture (EAA) manual 2024:

<https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/w/ks-gq-24-013>

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